REMARKS/ARGUMENTS

Claims 10-15 and 24-27 are pending in the above-referenced patent application and are currently under examination. In the Office Action, claims 10-15 and 24-27 were rejected under 35 U.S.C. § 103 over Boss *et al.* (1997) ("Boss") in view of Bathgate *et al.* (1992) ("Bathgate"). For the reasons set forth herein, this rejection is overcome.

Rejections under 35 U.S.C. § 103

Claims 10-15 and 24-27 were rejected under 35 U.S.C. § 103 over Boss *et al.* (1997) ("Boss"), in view of Bathgate *et al.* (1992) ("Bathgate"). According to the Examiner, while Boss teaches nucleic acids encoding UCP2, they do not teach operably linking the nucleic acids to a promoter, the generation of expression vectors or cells comprising the nucleic acids, or methods of producing UCP2 using the nucleic acids. However, according to the Examiner, one of skill in the art would have been motivated to combine the teachings of Boss regarding the nucleic acid sequence with those of Bathgate, who teach the recombinant expression of a rat UCP protein in yeast cells. Applicants respectfully traverse this rejection.

It is well established that a *prima facie* case of obviousness requires that one of skill in the art would have been motivated to combine or modify items of the prior art to make the claimed invention. As stated in the MPEP §2143.01:

> Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art.

In the present case, neither Boss *et al.* nor Bathgate *et al.* would have provided any motivation for one of skill in the art to operably link the presently claimed UCP2-encoding nucleic acids with a promoter or regulatory element, to generate expression vectors or cells comprising the nucleic acid, or to use these nucleic acids to produce UCP2 proteins.

The studies of Boss *et al.*, which were primarily directed toward the UCP3 protein (the title of the paper is "Uncoupling protein-3: a new member of the mitochondrial carrier

family with tissue-specific expression"), address UCP2 primarily as it relates to UCP3. For example, UCP2 is mentioned from page 40, column 2, to page 41, column 2, as well as in Figure 1, with respect to its sequence similarity to UCP3. In addition, the expression pattern of UCP2, which was ubiquitous, was contrasted with the tissue-specific expression of UCP3 (*see, e.g*, page 41, column 2 to page 42, column 1). Nothing about these results or discussions would have motivated one of skill in the art to operably link the UCP2-encoding sequence to a promoter, to make expression vectors or cells comprising the sequence, or to use the sequence to produce UCP2.

Bathgate *et al.* would also have failed to provide any motivation to carry out the presently claimed invention. Contrary to the Examiner's assertions, Bathgate did not express the UCP protein in yeast to isolate the protein via western blot. Instead, Bathgate expressed a rat UCP protein in yeast cells to determine the intracellular localization of the expressed protein and to assess its effects, if any, on the cells. In these experiments, Bathgate found that the UCP protein localized to yeast mitochondria, and that the protein conferred a strong growth defect on the yeast cells. Applicants respectfully submit that a finding that a different UCP protein, from a different species, produces a growth defect in yeast, would have hardly motivated one of skill to operably link the presently claimed human UCP2-encoding sequences with a promoter, to make expression vectors or cells comprising the nucleic acids, or to use the nucleic acids to produce the human UCP2 polypeptide.

In the Office Action, the Examiner has indicated "Boss *et al.* teach uncoupling protein-3 that is identical to SEQ ID NO:1 (dependent claim 26)" (*see*, page 2 of the Office Action). However, the UCP2 protein is ***different*** from the UCP3 protein and, thus, the nucleic acid encoding UCP3 is ***different*** from the nucleic acid encoding UCP2. Moreover, as explained above, there is nothing about the results or discussion set forth in Boss *et al.* regarding UCP2 that would have motivated one of skill in the art to operably link the presently claimed human UCP2-encoding sequence to a promoter, to make expression vectors or cells comprising the sequence, or to use the sequence to produce UCP2.

In view of all of the above, Applicants respectfully submit that one of skill in the art would not have been motivated to combine the teachings of Boss *et al.* with those of Bathgate

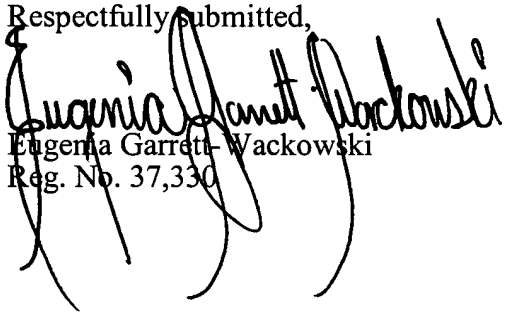
et al. Accordingly, since a motivation is essential to establish a *prima facie* case of obviousness, Applicants assert that the rejection of the pending claims under 35 U.S.C. § 103 is improper and should be withdrawn.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 925-472-5000.

Respectfully submitted,



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